

IFTToMM Summer School on Mechanism Design for Applications in Mechatronic Systems (MDAMS2022)

PROGRAMME

4th July - 9th July, 2022

Studentų str. 56, 157 room

Kaunas, Lithuania

July 3, Sunday

All day Arrival

July 4, Monday

08:00 - 09:00 Registration, morning coffee

09:00 - 10:30 OPENING - Dr. Andrius Vilkauskas, Dean of the Faculty of Mechanical Engineering and Design, KTU
Piezomechanic Applications in Machining Technologies, Healthcare, Microstructure Dynamics
Prof. Dr. habil. Vytautas Ostaševičius, Chairperson of IFTToMM National Committee of Lithuania
Institute of Mechatronics, Kaunas University of Technology, Lithuania

10:30 - 11:00 Coffee break

11:00 - 12:30 Mechatronic Systems for Biomedical Applications

Assoc. Prof. Dr. Daniela Maffiolo

Department of Mechanical and Aerospace Engineering (DIMEAS), Politecnico di Torino, Italy

12:30 - 14:00 Lunch time

14:00 - 15:30 Motion Control for Mechanisms (part 1)

Prof. Dr. Corves Burkhard

Institute of Mechanism Theory, Machine Dynamics and Robotics, RWTH Aachen University, Germany

15:30 - 16:00 Coffee break

16:00 - 17:30 Best practices in business. Tour in laboratories

July 5, Tuesday

08:00 - 09:00 Registration, morning coffee

09:00 - 10:30 Designing of Suspension Systems for Mobile Robots

Assoc. Prof. Dr. Jaroslaw Szrek

Mechatronics and Robotics Laboratory, Department of Fundamentals of Machine Design and Mechatronic Systems,
Faculty of Mechanical Engineering, Wrocław University of Science and Technology, Poland

10:30 - 11:00 Coffee break

11:00 - 12:30 Control System of Mobile Robots

Assoc. Prof. Dr. Jaroslaw Szrek

Mechatronics and Robotics Laboratory, Department of Fundamentals of Machine Design and Mechatronic Systems,
Faculty of Mechanical Engineering, Wrocław University of Science and Technology, Poland

12:30 - 14:00 Lunch time

14:00 - 15:30 Workshops (splitted in groups)

1. MOCAP in Engineering and Biomechanics. Dr. Aurelijus Domeika, PhD student Ieva Aleknaitė-Dambrauskienė

2. 3D printing and quality control. Dr. Marius Rimašauskas, Dr. Tomas Kuncius

3. Investigation of piezo-transducers dynamics characteristics. Dr. Darius Eidukynas, Prof. Dr. Vytautas Jūrėnas

4. Robots and manipulators programming approaches. Dr. Marius Gudauskis, Dr. Arūnas Žvironas

15:30 - 16:00 Coffee break

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From 18:00 Dinner at Stumbras, K. Būgos str. 7, LT-44328 Kaunas, Lithuania

July 6, Wednesday

08:00 - 09:00 Registration, morning coffee

09:00 - 10:30 Mechanism Application in Mechatronics and Robotics

Prof. Dr. Erwin-Christian Lovasz

Department of Mechatronics, Politehnica University of Timisoara, Romania

10:30 - 11:00 Coffee break

11:00 - 12:30 Dimensional Synthesis of Mechanisms

Assoc. Prof. Dr. Mónica Urizar & Aitor Muñozerro PhD student

Department of Mechanical Engineering, University of the Basque Country, Spain

12:30 - 14:00 Lunch time

14:00 - 15:30 Tactile/haptic Technologies and Access to 2D Informations

Prof. Dr. Edwige Pissaloux

Physic Department, University of Rouen, ISIR (Institute of Intelligent Systems and Robotics), Paris-Sorbonne University, France

15:30 - 16:00 Coffee break

16:00 - 16:30 Prototype of our Force-Feedback Device (Presentation)

Prof. Dr. Edwige Pissaloux

Physic Department, University of Rouen, ISIR (Institute of Intelligent Systems and Robotics), Paris-Sorbonne University, France

July 7, Thursday

08:00 - 09:00 Registration, morning coffee

09:00 - 10:30 Design Considerations of a Haptic System's Mechanism and Actuation Subsystem (part 1)

Assoc. Prof. Dr. Can Dede

Department of Mechanical Engineering, Izmir Institute of Technology, Turkey

10:30 - 11:00 Coffee break

11:00 - 12:30 Design Considerations of a Haptic System's Mechanism and Actuation Subsystem (part 2)

Assoc. Prof. Dr. Can Dede

Department of Mechanical Engineering, Izmir Institute of Technology, Turkey

12:30 - 14:00 Lunch time

14:00 - 15:30 Methodologies for Increasing the Positioning Accuracy of High-Acceleration Parallel Robots Used in Industrial Applications (part 1)

Assoc. Prof. Dr. Gokhan Kiper

Department of Mechanical Engineering, Izmir Institute of Technology, Turkey

15:30 - 16:00 Coffee break

16:00 - 17:30 Methodologies for Increasing the Positioning Accuracy of High-Acceleration Parallel Robots Used in Industrial Applications (part 2)

Assoc. Prof. Dr. Gokhan Kiper

Department of Mechanical Engineering, Izmir Institute of Technology, Turkey

July 8, Friday

08:00 - 09:00 Registration, morning coffee

09:00 - 10:30 Dynamic Simulation and Analysis of Geared Transmissions with Presentation of a Case Study in Wind Turbines

Assoc. Prof. Dr. Domenico Mundo

Department of Mechanical, Energy and Management Engineering, University of Calabria, Italy

10:30 - 11:00 Coffee break

11:00 - 12:30 Motion Control for Mechanisms (part 2)

Prof. Dr. Corves Burkhard

Institute of Mechanism Theory, Machine Dynamics and Robotics, RWTH Aachen University, Germany

12:30 - 14:00 Lunch time

14:00 - 15:30 Design of Dynamically Balanced Mechanisms for High Speed Manipulators with Minimum Base Vibrations and for Gravity Balance

Assist. Prof. Dr. Volkert van der Wijk

Deployable Mechanisms & Static/Dynamic Balancing, Delft University of Technology, Netherlands

15:30 - 16:00 Coffee break

16:00 - 18:00 Hybrid Metal-Composite Gears with Improved NVH Performance: Design, Manufacturing and Testing

Assoc. Prof. Dr. Francesco Gagliardi & Assoc. Prof. Dr. Domenico Mundo

Department of Mechanical, Energy and Management Engineering, University of Calabria, Italy

July 9, Saturday

10:00 - unlimited Excursion – start point near „Moxy Kaunas Centre“ hotel, Maironio str. 19 at 10:00 a.m.